

Claims:

What is claimed is:

5 1. A set of RNA sequences shown thereafter, or any fragment from the sequences, which demonstrate anti-HIV infection activity and be employed in prevention and treatment of AIDS. The nucleotides include single strand RNA, any fragment derived from the sequences, or double strand RNA derived by annealing of the sequences with its complements sequences.

- 10 (1) aucaaugaggaagcugcagaaugg;
 (2) ggggaagugacauagcaggaacuacuag;
 (3) uaaaauaaaauaguaagaauguauagcccu;
 (4) uauggggguaccugugugga;
 (5) gccaaauucccauacauuauugugc;
15 (6) uuaaaugggcagucuagcagaa;
 (7) accacacacaaggcuacuucccugau;
 (8) acagccgccuagcauuucaucac;
 (9) ggauggugcuucaagcuaguaccaguu.

20 2. The RNA sequences in accordance with claim 1 or their fragments were modified at their 5' or 3' by adding nucleotides, which showed anti-HIV activity or be employed in HIV prevention and treatment.

25 3. A set of RNA sequences which showed anti-HIV activity or be employed in AIDS prevention and treatment, which were characterized by: Hairpin RNA composed of RNA as declared in claim 1 and its complement sequence spaced by a non-related spacer.

4. A set of DNA sequences which showed anti-HIV activity or be employed in AIDS prevention and treatment, which were characterized by:

- 30 1) DNA sequences or their fragments, which corresponded to the RNA sequences or their fragments as declared in Claim 1. or corresponded to the double strand RNA in accordance with claim 1 and its complement

sequence or fragments; or

2) DNA sequences or their fragments corresponded to RNA sequences or their fragments as declared in claim 1, which were modified by other nucleotides at their 5' , 3' , or both. Or,

5 3) A single strand or double strand DNA sequence, which correspond to the RNA sequence as described in Claim 3.

5, A expression vector against HIV infection or be employed in treatment or prevention of AIDS which characterized by: Vectors contains any of the RNA or DNA sequences or their fragment described Claim 1 to 4. The term Vector
10 includes RNA vectors and DNA vectors.

6, One kind of liposome against HIV infection or be employed in treatment or prevention of AIDS which characterized by: DNA, RNA or their fragments as in claim 1 to 4, or Vectors as described in Claim 5, were coated in the liposome.

7, A protocol against HIV infection or be employed in treatment or
15 prevention of AIDS which characterized by: RNA, DNA or their fragments as described in Claim 1 to 4, or expression vectors as described in claim 5, or liposomes as described in claim 6, was introduced into eukaryotic cell line, animal cells or human body.

8, An application of nucleotides against HIV infection or be employed in
20 treatment or prevention of AIDS which characterized by: RNA or DNA as described in Claim 1-4, expression vectors as described in claim 5, liposomes as described in Claim 6, or protocols as described in Claim 7, were employed in the development of drugs against HIV infection or for diagnosis, treatment, or prevention of AIDS.

25